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Wavelength-modulated photocurrent spectroscopy of GaSb/GaAs quantum ring solar cells

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1. Introduction In recent years, many studies have been reported on the optical response characterization of type-II GaSb/GaAs quantum dot solar cells [1-2]. It has been shown that incorporating quantum structures into the junction can considerably extend the near band-edge response of the solar cell [2]. Unlike with conventional response measurements, where the intensity of the light source is typically modulated, differential spectroscopy is performed by modulating the wavelength of the pseudo-monochromatic excitation source [3-4]. However, due to the spectral dependence of most excitation sources, the optical intensity is inherently also modulated. As an example, in order to obtain the correct differential quantum efficiency (QE) spectrum of the solar cell, the photon flux of the excitation source would need to be measured separately and subtracted ...

Are you currently a postgraduate student? (Yes/No)

No

Please provide the name and email address of your supervisor.

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